

***Remarks***

Reconsideration of this Application is respectfully requested.

Upon entry of the foregoing amendment, claims 1-24 are pending in the application, with claims 1, 9 and 18 being the independent claims.

Based on the following remarks, Applicant respectfully requests that the Examiner reconsider all outstanding objections and rejections and that they be withdrawn.

***Rejections under 35 U.S.C. § 103***

The Examiner has rejected claims 1-5, 7-13, 15-20 and 22-24 under 35 U.S.C. § 103(a) as being unpatentable over the combination of U.S. Patent No. 6,385,773 to Schwartzman *et al.* ("Schwartzman") in view of U.S. Patent No. 3,700,876 to Gray ("Gray"). For the reasons set forth below, Applicant respectfully traverses.

Claim 1 is directed to a method for maintaining the integrity of a communication system that includes:

detecting an impairment on a communication channel of the communication system;

characterizing said impairment as one of a plurality of impairment types, wherein said plurality of impairment types includes at least one non-periodic impairment type and one periodic impairment type; and

adapting operating parameters of the communication system in accordance with said characterization of said impairment.

Schwartzman and Gray, alone or in combination, do not teach or suggest each of the foregoing features of claim 1. For example, the Examiner has conceded that Schwartzman does not teach characterizing an impairment "as one of a plurality of impairment types, *wherein said plurality of impairment types includes at least one non-periodic impairment type and one periodic impairment type*" as recited in claim 1. *See* Office Action at p. 3. The Examiner asserts, however, that Gray provides the missing teaching because Gray teaches "the art of using autocorrelation to detect they [sic] type of random noise (non-periodic noise) or time-limited noise (periodic noise)." *Id.* Applicant respectfully submits that this is an improper characterization of the teachings of Gray.

Gray is directed to a signal processor that uses an auto-correlation technique to detect a signal in the presence of noise. The technique described in Gray is intended to reduce the time delay in performing the auto-correlation process. As discussed in Gray (and as cited by the Examiner):

The success of detectors employing the auto-correlation technique is due to the fact that the auto-correlation function of random (non-periodic) noise is zero. Further, it can be shown that the auto-correlation function of periodic (time-limited) noise is also zero. On the other hand, it may easily be shown that the auto-correlation function of a signal in the form of a sinusoid is another sinusoid.

Gray, col. 1, ll. 20-27. This language merely states that the auto-correlation function is the same for both periodic and non-periodic noise. That is to say, an auto-correlator does not distinguish between periodic and non-periodic noise at all; rather, it responds to both in the same manner. In fact, the auto-correlator described in Gray does not detect or characterize an impairment at all. Rather, it simply receives and processes an input signal and generates an output signal that has an improved signal-to-noise ratio. In other

words, the auto-correlator described in Gray operates only to detect a transmitted signal, not to detect or characterize an impairment as recited in claim 1.

Since neither Schwartman or Gray, alone or in combination, teach or suggest each and every feature of independent claim 1, the combination of Schwartzman and Gray fail to support a prima facie obviousness rejection of that claim. Accordingly, the Examiner's rejection of claim 1 under 35 U.S.C. § 103(a) is traversed and Applicant respectfully requests that the rejection be reconsidered and withdrawn. Dependent claims 2-5, 7 and 8 are also not rendered obvious by this combination for at least the same reasons as independent claim 1 from which they depend and further in view of their own respective features. Accordingly, the Examiner's rejections of claims 2-5, 7 and 8 under 35 U.S.C. § 103(a) are likewise traversed and Applicant respectfully request that these rejections be reconsidered and withdrawn.

Independent claim 9 is directed to a system for maintaining the integrity of a communication system that includes a processor that detects "an impairment on a communication channel of the communication system" and classifies "said impairment as one of a plurality of impairment types, wherein said plurality of impairment types includes at least one non-periodic impairment type and at least one periodic impairment type." Independent claim 18 is directed to an apparatus for maintaining the integrity of a communication system that includes processing means that detects "an impairment on a communication channel of the communication system" and classifies "said impairment as one of a plurality of impairment types, wherein said plurality of impairment types includes at least one non-periodic impairment type and at least one periodic impairment type."

For the reasons noted above in regard to claim 1, Schwartzman and Gray, alone or in combination, do not teach or suggest at least the foregoing features of independent claims 9 and 18. In particular, the Examiner has conceded that Schwartzman does not teach characterizing an impairment "as one of a plurality of impairment types, *wherein said plurality of impairment types includes at least one non-periodic impairment type and one periodic impairment type.*" See Office Action at p. 3. As discussed above in reference to claim 1, Gray also does not teach or suggest this feature, since the auto-correlator described in Gray operates only to detect a transmitted signal, and does not detect or classify an impairment.

Since neither Schwartzman nor Gray, alone or in combination, teach or suggest each and every feature of independent claims 9 and 18, the combination of Schwartzman and Gray fail to support a *prima facie* obviousness rejection of those claims.

Accordingly, the Examiner's rejections of claims 9 and 18 under 35 U.S.C. § 103(a) are traversed and Applicant respectfully request that the rejections be reconsidered and withdrawn. Dependent claims 10-13, 15-17, 19, 20 and 22-24 are also not rendered obvious by this combination for at least the same reasons as independent claims 9 and 18 from which they depend and further in view of their own respective features.

Accordingly, the Examiner's rejections of claims 10-13, 15-17, 19, 20 and 22-24 under 35 U.S.C. § 103(a) are likewise traversed and Applicant respectfully requests that these rejections be reconsidered and withdrawn.

***Claim Objections***

The Examiner has objected to claims 6, 14 and 21 as being dependent upon rejected base claims. For the reasons set forth above, the rejections of the base claims have been traversed. Accordingly, Applicant respectfully requests that the objection to claims 6, 14 and 21 be reconsidered and withdrawn.

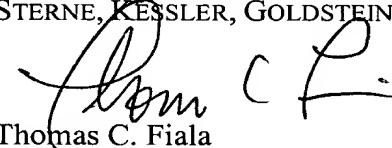
***Conclusion***

All of the stated grounds of objection and rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider all presently outstanding objections and rejections and that they be withdrawn. Applicant believes that a full and complete reply has been made to the outstanding Office Action and, as such, the present application is in condition for allowance. If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

Prompt and favorable consideration of this Amendment and Reply is respectfully requested.

Respectfully submitted,

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